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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/826,451 | 04/16/2004 | Paul A. Furze | B04-21 | 1055 |

40990 7590 11/12/2004

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| EXAMINER |
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CHURCH, CRAIG E

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| ART UNIT | PAPER NUMBER |
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2882

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/826,451

Applicant(s)

FURZE, PAUL A.

Examiner

Craig E. Church

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The disclosure is objected to as failing to provide an adequate written description. While the specification refers to levels of intensity in terms of Kv, physics and the prior art employ Kv as a measure of electrical potential and Kev as a measure of x-ray energy. Intensity is expressed in roentgens. The disclosure and claims are therefor misdescriptive and contrary to conventional terminology.

Claims 1-16 are rejected under 35 U.S.C. 112 first paragraph for the reasons set forth in the objection to the specification.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall (6390937) in view of Wolbarst. Marshall teaches testing the concentricity of a golf ball having an inner core and an outer cover with a thickness comprising placing the ball in an x-ray machine (lines 19 and 20 of column 7), providing an x-ray source and acquiring an x-ray image of the ball. Marshall does not mention the x-ray tube focal spot size or beam energy. Wolbarst explains basic principles of x-ray imaging such as

"...for high resolution...one wants as small a focal spot as is achievable"

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(pages 86 and 87). Pages 196-198 explain that this is so because of the penumbral effect, and the chart on page 256 reveals that typical focal spots are as small as .05 mm (.002 inch). It would have been obvious to practice the Marshall method with a small x-ray focal spot (.002 inch) to achieve high resolution imaging as taught by Wolbarst. Pages 114-116 of Wolbarst explain that absorption of x rays by an object depends on the energy of the x rays used to expose it and that image contrast between materials of similar density improves with low Kv, and it would have been obvious to select x-ray energy in the Marshall method in view of ball composition as taught by Wolbarst. The energy range claimed by applicant is quite large and would be absorbed by most common materials except heavy metals.

Claims 5-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6757353 in view of Wolbarst. Patent No. 6757353 does not mention the x-ray tube focal spot size or beam energy. Wolbarst explains basic principles of x-ray imaging such as

“...for high resolution...one wants as small a focal spot as is achievable”

(pages 86 and 87). Pages 196-198 explain that this is so because of the penumbral effect, and the chart on page 256 reveals that typical focal spots are as small as .05 mm (.002 inch). It would have been obvious to practice the patent method with a small x-ray focal spot (.002 inch) to achieve high resolution imaging as taught by Wolbarst. Pages 114-116 of Wolbarst explain that absorption of x rays by an object depends on the energy of the x rays used to expose it and that image contrast between materials of

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similar density improves with low Kv, and it would have been obvious to select x-ray energy in the patent method in view of ball composition as taught by Wolbarst.

Any inquiry concerning this communication should be directed to Examiner Church at telephone number (571) 272-2488.

A handwritten signature in black ink that reads "Craig E. Church". The signature is written in a cursive, slightly slanted style.

Craig E. Church
Senior Examiner
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